PCM-9587 A2 Onboard Intel® Celeron® M EBX SBC with Audio, VGA, LCD, SATA

Startup Manual

Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- 1 PCM-9587 A2 all-in-one single board computer
- 1 Startup manual
- CD-ROM or disks for utility, drivers, and manual (in PDF format)
- 1 Mini Jumper pack conts: p/n: 9689000002
- 1 ATX power cable p/n: 1700001112
- 1 AT power cable p/n 1700016141

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

Note 1: For detailed contents of the PCM-9587 A2, please e 422/485 port. refer to the enclosed CD Disc or disk (in PDF format).

Note 2: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: www.adobe.com/Prodindex/acrobat/read-step.html(Acrobat is a trademark of Adobe.)

"This item incorporates copy protection technology that is protected by U.S patents and otehr intellectual property rights of Rovi Corporation. Reverse engineering and disassembly are prohibted."

Caution! There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

For more information on this and other Advantech products, please visit our website at:

http://www.advantech.com

http://www.advantech.com/epc

For technical support and service, please visit our support website at:

http://service.advantech.com.tw/eservice/

This manual is for the PCM-9587 series Rev. A2.

Part No. 2006958712 3rd Edition,
Printed in China Sep. 2010

Specifications

Standard SBC functions

- **CPU:** Supports onboard Intel® Celeron® M processor
- **BIOS:** Award 4Mbit Flash BIOS
- **System Chipset:** Intel 852GM GMCH/ 6300ESB Chipset 400 MHz FSB
- **System memory:** One 184 pin DIMM socket, support ECC Double Data Rate (DDR)128 MB to 1GB, accept 128/256/512/1000 MB DDR 200/266 DRAM
- **Enhanced IDE interface:** One Enhanced IDE interface supports 2 IDE devices. PIO mode 3 or mode 4, Ultra DMA 100 tranfer. 2 Serial ATA standard connector to support SATA 150
- **FDD interface:** Supports one FDD
- **Serial ports:** Three serial RS-232 one serial RS-232/422/485 port.
- **Parallel port:** One parallel port, supports EPP/ECP parallel mode.
- **Keyboard/mouse connector:** supports standard PS/2 keyboard and a PS/2 mouse
- **Power management:** APM Rev. 1.2 compliant power management ACPI support
- **Watchdog timer:** Winbond W83627, 255 levels timer interval, setup by software
- **USB:** USB host interface,4 Universal Serial Bus ports, USB 2.0 compliant. 2 set 5x2 2.0mm Pin header w/ idiot-proof (USB1,2) (USB3,4)
- **IrDA:** N/A
- **GPIO:** 8-bit general purpose input/output
- **Expansion:** PC/104 Plus(support 8bit ISA, not support ISA DMA mode), PCI and miniPCI

Solid State Disk

- Supports one 50-pin Compact Flash Card Type I/II

VGA/LCD Interface

- **Chipset:** Intel 852GM
- **Frame buffer:** Optimized Shared Memory Architecture, support up to 64MB frame buffer using system memory
- **Interface:** 4x AGP VGA/LVDS interface
- **Display mode:** CRT Modes: pixel resolution up to 1600 x 1200 at 85-Hz and 2048 x 1536 at 75-Hz
- **LCD mode:** Dual channel LVDS panel support up to UXGA panel resolution with frequency range from 25-MHz to 112-MHz
- **LVDS:** 48-bit LVDS x1

DVI

- **Chipset:** Chrontel CH7010

Ethernet interface

- **Chipset:** Intel 82551ER (82541PI Giga LAN is optional)
- **Ethernet interface:** IEEE 802.3u 100 BASE-T Fast Ethernet compatible
- **I/O address switchless setting**
- **Built-in boot ROM**

Audio Function

- **Chipset:** Realtek ALC203, AC97
- **Audio controller:** AC97 3D surround stereo sound
- Supports Speaker out, CD-input, Line-in, Line-out, Microphone

Mechanical and Environmental

- **Dimensions:** (L x W)203 x 146 mm (8" x 5.75")
- **Power Supply Voltage:** ATX, with Vcore 2 phase, +5V power only can work
- **Power Requirement:** (Celeron® M 600 with 256 MB DDR266) Max: 3.08 A@ 5 V, 0.04 A @ 12 V
- **Operating temperature:** 0 ~ 60° C (32~140° F)
- **Operating Humidity:** 0% ~ 90% Relative Humidity, noncondensing
- **Weight:** 0.85 kg (weight of total package)

Jumpers and Connectors

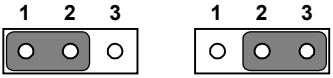
The board has a number of jumpers that allow you to configure your system to suit your application.

The table below lists the function of each of the jumpers Setting Function and connectors.

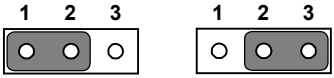
Jumpers	
Label	**Function**
J1	LCD Voltage Select
J2	PC104+ VIO Select
J3	Clear CMOS function Select
J5	COM2 RS232/422/485 function Select
J6	AT/ATX Power mode select

Connectors	
Label	**Function**
CN1	LCD Backlight connector
CN3	CD-IN connector
CN4	Audio output connector
CN5	Power input connector
CN6	-12V and -5V connector
CN7	VGA connector
CN8	LVDS connector
CN9	DVI connector
CN10	Gigabit LAN connector
CN11	10/100M LAN connector
CN12	Gigabit LAN led connector
CN13	System FAN connector
CN14	Floppy connector
CN15	Primary HDD connector
CN16	Printer port connector
CN17	PC104 and PC104+ connector
CN18	USB port 3/4
CN19	DIO connector
CN20	USB port 1/2
CN21	COM port 1/2/3/4 connector
CN22	Front panel connector
CN23	SATA connector 1
CN24	SATA connector 2
CN25	CPU FAN connector
CN26	SMBUS extension connector

J1: LCD Voltage Select	
Setting	**Function**
1-2	+3.3 V (default)
2-3	+5 V



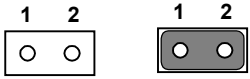
J2: PC104+ VIO Select	
Setting	**Function**
1-2	VIO = +5 V (default)
2-3	VIO = +3.3 V



J3: Clear CMOS function	
Setting	**Function**
1-2 Open	Normal (default)
1-2 Close	Clear CMOS

J5: COM2 RS232/422/485 Select			
Pins	**RS-232(default)**	**RS-422**	**RW-485**
1-2	Open	Open	Closed
3-4	Open	Closed	Open
5-6	Closed	Open	Open
7-9	Closed	Open	Open
8-10	Closed	Open	Open
9-11	Open	Closed	Closed
10-12	Open	Closed	Closed
13-15	Closed	Open	Open

J6: AT/ATX Power mode select	
Setting	**Function**
1-2 Open	ATX mode(default)
1-2 Close	AT mode



When you select AT mode J6(1-2) close, the following actions are needed:

1. Set the Power Selection to AT type (get into BIOS setting -> Power management setup -> AT/ATX power selection).
2. Change with power cable 1700016141.

Board Layout

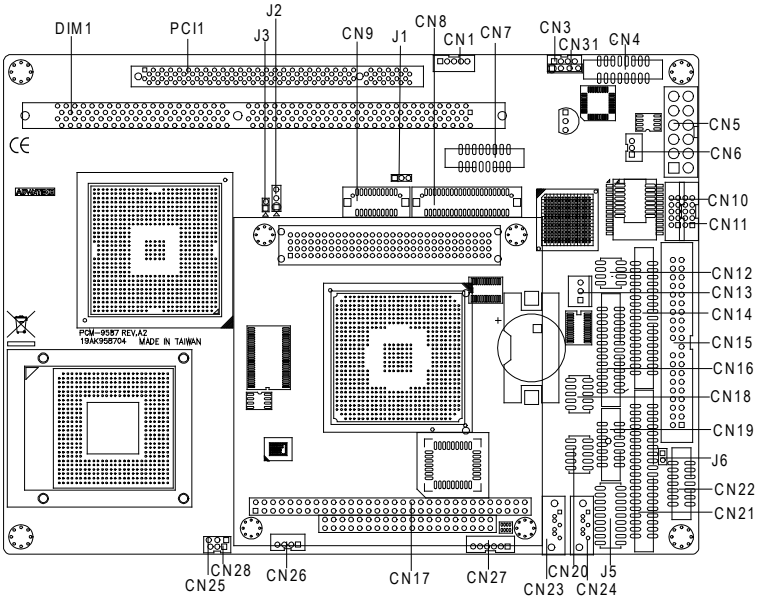


Figure 1: Jumpers & Connectors (component side)

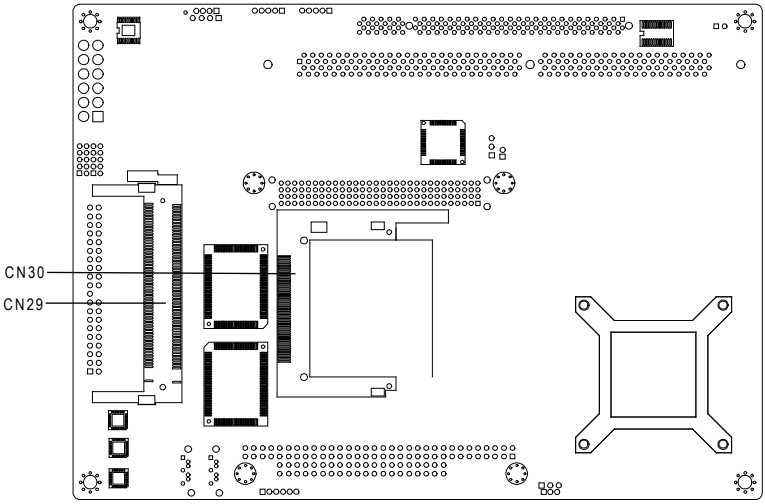


Figure 2: Jumpers & Connectors (solder side)

Mechanical Drawing

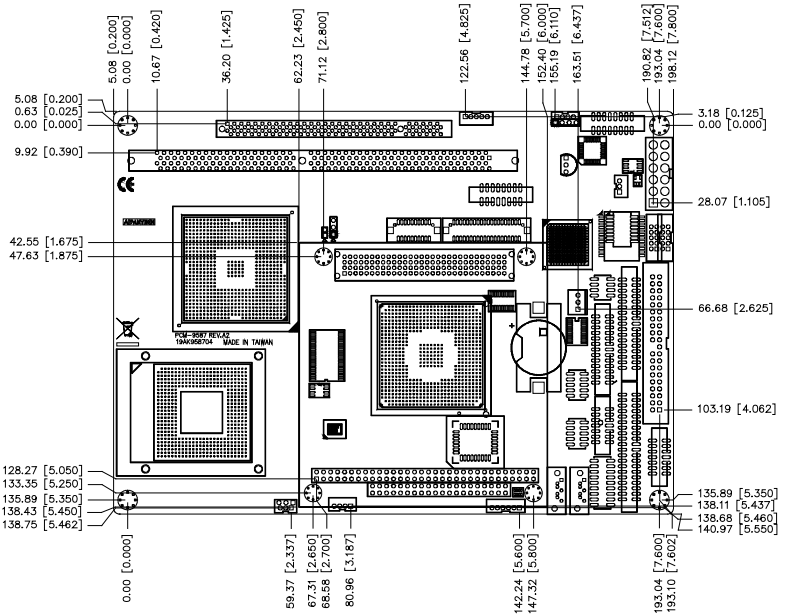


Figure 3: PCM-9587 A2 Mechanical Drawing (component side)

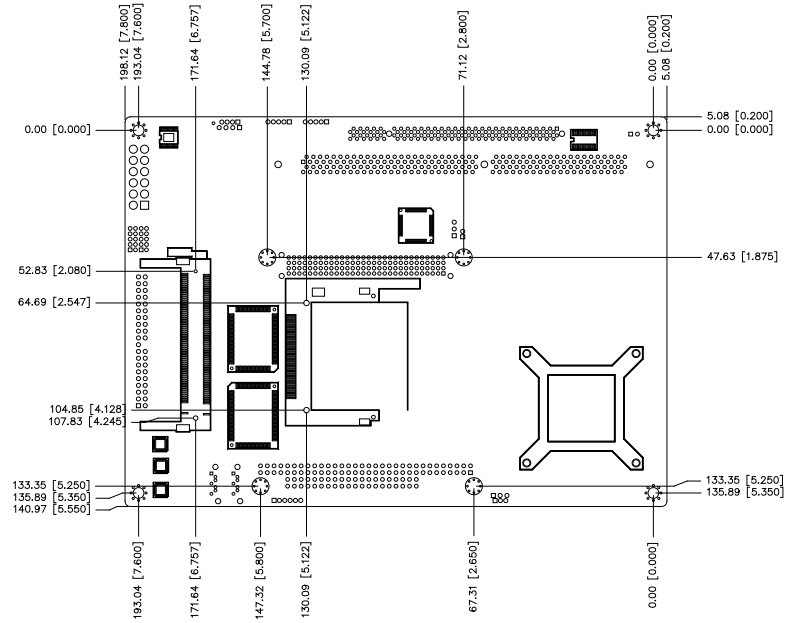


Figure 4: PCM-9587 A2 Mechanical Drawing (solder side)